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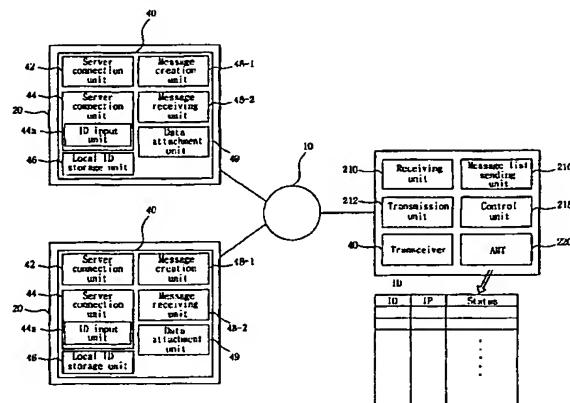
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(54) Title: COMMUNICATION SERVICE APPARATUS CAPABLE OF INTERACTIVE COMMUNICATION WITH ANY EMAIL USER(S) AT REAL TIME AND METHOD THEREOF



WO 01/93510 A1  
(57) Abstract: The present invention relates to a communication service apparatus capable of interactive communication with any email user(s) at real time, including: certain user terminals each having a transceiver, a server connection unit for transferring an ID and a local IP, a message creation unit for entering a message, a message receiving unit for receiving the ID of the other party wanting to communicate with the user and a message list, a data attachment unit for attaching data, and a communication request unit which requests for communication by transmitting the ID of the other party, a message, the user ID and the IP and which is provided with an ID input unit inputting the ID of the other party to communicate with; and a multimedia communication server having a receiving unit for receiving a server connection signal from those certain terminals, an address mapping table for classifying and storing the received message list about message information, a message list sending unit for sending the message list according to the address mapping table to the certain user terminal, a transmission unit for transmitting the transceiver to the user, and a control unit for controlling the server overall.

Real Time Interactive Electronic Mail Communication Service

**COMMUNICATION SERVICE APPARATUS CAPABLE OF INTERACTIVE  
COMMUNIATION WITH ANY EMAIL USER(S) AT REAL TIME AND  
METHOD THEREOF**

5

**BACKGROUND OF THE INVENTION**

**1. Field of the Invention**

The present invention relates to a communication service apparatus capable of interactive communication with any email user(s) at real time and a method thereof, and 10 more particularly, to a communication service apparatus capable of interactive communication with a sender immediately a receiver clicks a multimedia communication program transmitted by email and a method thereof.

**2. Description of the Related Art**

15 Communication service technologies for exchanging character messages with an unknown person are widely known at present. Fig. 1 is a schematic block diagram of a communication service apparatus in accordance with the conventional art, in which more than one communication service users connect to a communication server 8 via the internet network 6 by using terminals 2 and 3. Generally, communication service providers operating a communication server provides a communication service capable 20 of exchanging character messages through communication service providers, such as Hitel, Chollian, etc., or internet service providers. At this time, the service user terminals 2 and 3 connects to the communication server 8 of the communication service provider through a modem, a telephone line or a leased line.

Meanwhile, the above-described communication service is recognized as a service generally used by people in every age groups as well as young age groups such as teenagers because it is interesting to chat with unknown persons through a computer. In order to receive a communication service through such a communication service provider, generally, a user connects to the provider of a communication service to use and registers for the service. The registered user selects the other party to communicate with only from many users connected to the same communication service provider, and exchanges character or other messages with the other party. That is, in Fig. 1, a first user and a second user can exchange messages only when they have subscribed for the communication service provided by the communication server 8 of the communication service provider and have connected thereto by using their respective terminal 2 and 3.

Fig. 2 is a flow chart illustrating a communication service process according to the apparatus of Fig. 1. As illustrated therein, a user who wants to receive a communication service tries to connect to a server opening the corresponding communication service via the internet by using his or her terminal 2 in S10. In order to connect with a communication service provider opened in Chollian, for example, the user connects to Chollian by dialing a telephone number for connecting to Chollian, such as "1412" using the terminal 2, and thereafter tries to connect to a desired communication service provider by selecting it from a menu provided on a screen by Chollian or typing a command, such as "go chat".

The communication service provider having received a connection request from the user checks whether the user presently requesting for a connection is a registered user in S20.

As the result of the checking, if the user is an unregistered user, a registration

request message for requesting for registration is sent to the terminal 2 of the user in S30. The user enters in the information (name, date of birth, address, etc.) required for the registration and sends this registration information to the server 8 of the communication service provider through his or her terminal 2 in S40.

5 Meanwhile, as the result of the checking in S20, if the user who is presently trying for connection is a registered user or after S40 has been executed, the server 8 of the communication service provider sends information about users to communicate with registered therein to the user. At this time, it is common that a registration update message is also sent along with the information in S50. The reason thereof is because  
10 the information of a registered user may be updated.

The user selects the other party to communicate with by referring to the information about users to communicate with sent from the server 8 of the communication service provider, and transfers the user information to the server 8. At this time, in the case that the registration information of the user has been updated, the  
15 user also sends the update information in S60.

Now, the user who has tried for connection makes communication with the other party selected in S60 in S70. Then, when the communication is finished, the user having tried for connection or the other party terminates the communication connection by using its computer 2 and 3 in S80.

20 However, the above-described conventional communication service has the following problems.

First, it is inconvenient that both parties wanting communication can receive a communication service only after they have connected to the same communication service provider in the same communication environment and one of them has selected

the other party to communicate with as described above. That is, in the conventional communication service, communication is made possible only when two persons wanting communication use the same communication tool(or communication program) and two persons or a large number of people are all kept being prepared to communicate 5 simultaneously.

In other words, the conventional communication service is useful for chatting with a plurality of unknown persons. In order to communicate with a specified person, however, a user needs to make contact with the specified person in advance by using another communication apparatus and needs to inform the specified person of a 10 message for inviting the person to a communication room of a specified communication service user. Accordingly, it takes a lot of time in preparing communication, for thereby causing inconvenience for users who need to communicate with an unprepared party rapidly.

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## SUMMARY OF THE INVENTION

It is, therefore, an object of the present invention to provide a communication service apparatus capable of interactive communication with a sender by transmitting a transceiver to the other party to communicate with by email or by immediately clicking a communication program transmitted by the other party and a method thereof.

20

To achieve the above object, there is provided a communication service apparatus capable of interactive communication with any email user(s) at real time in accordance with the present invention which includes: certain user terminals each having a transceiver consisting of a local ID storage unit for storing a local ID, a server connection unit for transferring the ID and a local IP, a message creation unit for

entering a message, a message receiving unit for receiving the ID of the other party wanting to communicate with the user and a message list, a data attachment unit for attaching data if needed in creating a message, and a communication request unit which requests for communication by transmitting the ID of the other party, a message, the 5 user ID and the IP and which is provided with an ID input unit inputting the ID of the other party to communicate with and; and a multimedia communication server having a receiving unit for receiving a server connection signal from those certain terminals, an address mapping table for classifying and storing the received message list about message information, a message list sending unit for sending the message list according 10 to the address mapping table to the certain user terminal, a transmission unit for transmitting the transceiver to the user if the other party that the connected user has requested for communication is not connected presently, and a control unit for controlling the server overall.

Also, the control unit of the server sends the ID and message list of another user 15 who has requested for communication with the user to the user currently connected.

In addition, there is provided a communication service method capable of interactive communication with any email user(s) at real time in accordance with the present invention which includes the steps of: receiving the ID of the other party and a message if there is a communication request signal; searching the received information 20 in an AMT; deciding whether the corresponding ID user is enabled to communicate if the ID of the other party is present in the AMT; and making both parties communicate with each other by transmitting the ID of the other party if the ID user is enabled to communicate as the result of the decision.

Also, the communication request signal is a signal sent to the server after any

user has created the ID of the other party and/or a message.

Also, if there is no ID of the other party in the AMT, or if the corresponding IP is disabled to communicate, the transceiver is attached to be transmitted to the corresponding ID user by email.

5 Also, in the communication process, the transmission of multimedia files including graphic files or video images as well as character messages is enabled.

Also, there is provided to a communication service method capable of interactive communication with any email user(s) at real time, wherein both parties are enabled to communicate with each other automatically by means of a transceiver, 10 comprising the steps of: transmitting a transceiver to the other party to communicate with by email; and clicking the transceiver transmitted in the form of an attached file by the other party.

Also, when the transceiver is transmitted to the other party, the IP address of the other party is also transmitted.

15 Also, in the transceiver transmitting step, if the other party is using the transceiver, both parties can communicate with each other immediately.

Also, there is provided to a communication service method capable of interactive communication with any email user(s) at real time, comprising the steps of: performing loading; requesting for an address data of the other party to communicate 20 with; and transmitting the address data for thereby enabling the sending and receiving parties to connect to each other and communicate with each other.

Also, in the loading step, any user (for example, a sending party user) connects to a server providing a service by clicking the transceiver for thereby automatically transmitting the IP, email ID and status of the user.

Also, when the loading step is performed, address data of clients who have requested for communication with the user is automatically displayed.

Also, there is provided to a communication service method capable of interactive communication with any email user(s) at real time, wherein sending and receiving parties can connect to each other for communicating with each other, comprising the steps of: automatically transmitting the IP, email ID and status of any user by executing a transceiver; requesting for address data of the other party to communicate with; transmitting the transceiver to the other party having the address data if the other party is disabled to communicate with; executing the transmitted file by the other party; and determining and selecting one address data of the address data of a plurality of sending parties who have requested for communication which have been received via a server.

Also, there is provided to a communication service method capable of interactive communication with any email user(s) at real time, wherein any sending and receiving parties having no transceiver are enabled to communicate with each other, comprising the steps of: transmitting a local ID and the ID of the other party to communicate with to an operating server by email by any user; extracting IDs from the message received by email and transmitting a transceiver to those IDs by the operating server; and executing the transceiver transmitted via the server by both parties.

In the present invention, email ID extraction represents analysis and parsing of message data by the server.

#### BRIEF DESCRIPTION OF THE DRAWINGS

The above objects, features and advantages of the present invention will

become more apparent from the following detailed description when taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a schematic block diagram of a communication service apparatus in accordance with the conventional art;

5 Fig. 2 is a flow chart illustrating a communication service process according to the apparatus of Fig. 1;

Fig. 3 is a schematic block diagram illustrating a communication service apparatus in accordance with a first embodiment of the present invention;

10 Fig. 4 is a flow chart illustrating a communication service process according to the apparatus of Fig. 3;

Fig. 5 is a flow chart illustrating the step of inquiring email of a receiving party and connecting to the receiving party according to the service apparatus of the present invention; and

15 Fig. 6 is a flow chart illustrating a process of displaying address data of the person who has requested for communication with a user according to the service apparatus of the present invention.

#### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

20 A preferred embodiment of the present invention will now be described with reference to the accompanying drawings.

Fig. 3 is a schematic block diagram illustrating a communication service apparatus in accordance with the present invention. As illustrated therein, a user connects to a multimedia communication server via the internet network 6 by its terminal 20.

The user terminal 20, which is a unit for interactive communication with any party at real time, includes a transceiver 40. The transceiver 40 includes a local ID storage unit 46 for storing a local ID, a server connection unit 42 for transferring the ID and a local IP to a multimedia communication server 200 to be described later for connecting thereto, a message creation unit 48-1 used when there is a need to enter a message, a message receiving unit 48-2 for receiving and displaying the ID of the other party wanting to communicate with the user and a message list by the multimedia communication server 200, a data attachment unit 49 for attaching data if needed in creating a message, and a communication request unit 44 which is provided with an ID input unit 44a entering the ID of the other party to communicate with and requests for communication by transmitting the ID of the other party(i.e., email address), a message, the local ID and the IP.

Reference numeral 30 denotes a terminal of any user for communicating with the user at real time by the user terminal 20. Although it is indicated that this terminal 30 has the same transceiver as the user terminal 20, the transceiver 40 can be transmitted to the terminal 30 if there is no transceiver 40.

Any user having received a communication request from the user terminal 20 is allowed to exchange messages at real time only by clicking the transceiver 40 in the terminal 30, i.e., only by executing a multimedia communication program. That is, there is no need to perform a set up process in a general communication transmitting/receiving program at all. Of course, it is possible to select a communication environment option in order to utilize a communication environment conveniently.

The multimedia communication server 200 includes a receiving unit 210 for receiving a server connection signal, a message list sending unit 216 for sending a

message list about received message information, a transceiver 40 identical to that stored in the terminals 20 and 30, a transmission unit 212 for transmitting the transceiver 40, an address mapping table (hereinafter, referred to as AMT) for classifying and storing the received ID, IP and message from a plurality of terminals, 5 and a control unit 218 for controlling the server overall.

The user terminals 20 and 30 control a communication process by the multimedia communication server 200.

Fig. 4 is a flow chart illustrating a communication service process according to the apparatus of Fig. 3. As illustrated therein, firstly, in a process step according to a 10 connection request signal, when a certain terminal 20 having the transceiver 40 executes the transceiver 40, the multimedia communication server 200 decides this signal as a connection request signal in S2, then receives the ID, message data and IP of the terminal having requested connection in S4, and then classifies the received information, i.e, the ID, IP and message, to thus store the same in the address mapping table 220 in 15 S6.

In addition, in a real time communication service step, in the case that the user creates the ID of the other party and a message and sends a communication request, the server 200 decides the request as a communication request signal in S8. If there is a communication request signal, the ID of the other party and the message are received 20 and are also stored in the AMT 220 in S10. Then, a step of searching the received information in the AMT 220 is performed, which is a step of checking whether the ID of the other party exists in the AMT 220 in S12. If the ID of the other party exists in the AMT 220, the IP since the IP corresponding to the ID can be found by the AMT 220 and it is decided whether the corresponding ID user is connected to the server 200 by

means of the IP in S14. If connected, it is allowed to send a message to the corresponding ID user and to communicate with him or her at real time in S18. Afterwards, it is decided whether there is a communication release signal in S20. If there is a release signal, the communication is released.

5 If there is no ID of the other party in the AMT 220 in S12, or if the corresponding IP is not connected to the server 200 in S16, the transceiver 40 is directly transmitted to the corresponding ID user by email in the form of an attached file, and accordingly the above-described process is performed.

10 In addition, if there is no communication request signal in S8, the server 200 decides whether there is a message transmitted to a specific ID currently connected to the server 200 in S22. As the result, if there is a message transmitted, the message and data (if any) are transmitted to the corresponding ID in S24. This step S24 is a step of displaying a message list to the message receiving unit 48-2 of the transceiver 40 of the ID user since the currently connected user can be found by means of the AMT 220.

15 In the above multimedia communication process, video communication is also available by sending video images as well as a character messages

Meanwhile, in accordance with a second embodiment (not shown) of the present invention, multimedia communication is made available without using the multimedia communication server 200. In this case, the configuration is mostly the same as the first embodiment, except that the transceiver 40 is directly transmitted to the other party to communicate with by email. When the transceiver 40 is transmitted to the other party, the IP address of the other party is also transmitted directly to the other party to communicate with. Accordingly, in this embodiment which is implemented without using the server 200, if the other party to communicate with is not connected, a message

cannot be delivered since the communication is not controlled by the server 200. However, it is advantageous in that the transceiver 40 can be transmitted directly to the other party to communicate with without using the server 200, and if the other party is using the transceiver 40, it is possible to directly communicate with him or her.

5 Fig. 5 is a flow chart illustrating the step of inquiring email of a receiving party and connecting to the receiving party according to the service apparatus of the present invention.

As illustrated therein, any user performs a loading step S102, and then requests the server 200 to make an IP inquiry of a received email ID in S104. In the loading step, 10 any user (for example, a sending party user) can connect to the server 200 providing a variety of services only by clicking the transceiver and transmits its IP, email ID and status via the server 200. After the above step, the server 200 decides whether a receiving party ID requested by the sending party is enabled to communicate in S106. If it is enabled to communicate, the IP of the receiving party is transmitted to the sending 15 party in S108. Afterwards, the sender can connect with the receiver and exchange messages and various multimedia files with him or her in S110.

In addition, if the sending party is disabled to communicate in the decision step, the server 200 transmits the message and email ID to the receiving party along with the transceiver (alias callmorning) in S112. Thereafter, when the sending party performs an 20 attached file opening step in S114, this opening step denotes the step of simply clicking a portion indicated as "open", for example, a portion indicative of a button or address, of an document attached to the email message. By this step, the file sent from the sending party is automatically opened. Specifically, in order that the sending and receiving parties can chat with each other and exchange messages, it is necessary to

download files for such functions and set up them. With respect to this, the present invention is very convenient and useful since both downloading and setup processes are performed at the same time simply by clicking once. After the attached file opening step, the step identical to the loading step performed at the sending party is performed.

5      Thereafter, a communication request IP, email ID and status list are requested and their results are received from the server 200 in S116. That is, in this step, the receiving party can know who has requested for communication with him or her, and can communicate with a specific person selected. After receiving the result, the receiving party determines the IP and email ID to connect to in S118, and then connects to the sending party in

10     S120.

As seen from above, the sending party can request for an inquiry of the information of the other party, i.e., the receiving party, to communicate with by means of the server 200, and can connect to the other party based on the result of the inquiry. In addition, the receiving party can open the transceiver received by email, or can 15 perform the opening step by opening it again and clicking the corresponding portion when necessary. Furthermore, after opening the transceiver, the receiving party can know who has requested for communication with him or her and can communicate with a desired person selectively.

Fig. 6 is a flow chart illustrating a process of displaying address data of the 20 person who has requested for communication with a user according to the service apparatus of the present invention.

As illustrated therein, when any user performs the loading step described above in S122, the transceiver automatically requests the server 200 for address data of other clients having requested for communication with the user in S124. The server 200

decides whether there is an address data of other clients having requested for connection to the user in S126. If there is an address data, the address data is transmitted to the corresponding requester in S128. Then, the user can connect to the client of the corresponding address data in S130, which is optional with the user, of course.

5 In other words, in Fig. 6, any user can inquire the other party who has requested for communication with him or her by himself or herself. Accordingly, a communication service can be performed by selectively choosing the other party to communicate with.

As described above, in accordance with the communication service apparatus  
10 capable of interactive communication with any user at real time and a method thereof, communication can be made only by clicking the transceiver without setting a communication environment on the computer of the other party to communicate with, for thereby saving time. That is, an email receiver who has received a communication request can make communication by clicking once for responding to the communication  
15 request.

In addition, the email receiver who has received a communication request can make communication simply by clicking the received transceiver without preparing communication application software or setting up a received communication program.

Furthermore, the multimedia communication server automatically transmits the  
20 transceiver for communication when necessary, which makes communication more convenient.

**What Is Claimed Is:**

1. A communication service apparatus capable of interactive communication with any email user(s) at real time, comprising:
  - 5     certain user terminals each having a transceiver consisting of a local ID storage unit for storing a local ID, a server connection unit for transferring the ID and a local IP, a message creation unit for entering a message, a message receiving unit for receiving the ID of the other party wanting to communicate with the user and a message list, a data attachment unit for attaching data if needed in creating a message, and a communication request unit which requests for communication by transmitting the ID of the other party,
    - 10    a message, the user ID and the IP and which is provided with an ID input unit inputting the ID of the other party to communicate with and; and
      - 15    a multimedia communication server having a receiving unit for receiving a server connection signal from those certain terminals, an address mapping table for classifying and storing the received message list about message information, a message list sending unit for sending the message list according to the address mapping table to the certain user terminal, a transmission unit for transmitting the transceiver to the user if the other party that the connected user has requested for communication is not connected presently, and a control unit for controlling the server overall.
  - 20    2. The apparatus of claim 1, wherein the control unit of the server sends the ID and message list of another user who has requested for communication with the user to the user currently connected.
  3. A communication service method capable of interactive communication with

any email user(s) at real time, comprising the steps of:

receiving the ID of the other party and a message if there is a communication request signal;

searching the received information in an AMT;

5 deciding whether the corresponding ID user is enabled to communicate if the ID of the other party is present in the AMT; and

making both parties communicate with each other by transmitting the ID of the other party if the ID user is enabled to communicate as the result of the decision.

10 4. The method of claim 3, wherein the communication request signal is a signal sent to the server after any user has created the ID of the other party and/or a message.

15 5. The method of claim 3, wherein if there is no ID of the other party in the AMT, or if the corresponding IP is disabled to communicate, the transceiver is attached to be transmitted to the corresponding ID user by email.

6. The method of claim 3, wherein, in the communication process, the transmission of multimedia files including graphic files or video images as well as character messages is enabled.

20

7. A communication service method capable of interactive communication with any email user(s) at real time, wherein both parties are enabled to communicate with each other automatically by means of a transceiver, comprising the steps of:

transmitting a transceiver to the other party to communicate with by email; and

clicking the transceiver transmitted in the form of an attached file by the other party.

8. The method of claim 7, wherein, when the transceiver is transmitted to the other party, the IP address of the other party is also transmitted.

5

9. The method of claim 7, wherein, in the transceiver transmitting step, if the other party is using the transceiver, both parties can communicate with each other immediately.

10 10. A communication service method capable of interactive communication with any email user(s) at real time, comprising the steps of:

performing loading;

requesting for an address data of the other party to communicate with; and

transmitting the address data for thereby enabling the sending and receiving parties

15 to connect to each other and communicate with each other.

11. The method of claim 10, wherein, in the loading step, any user (for example, a sending party user) connects to a server providing a service by clicking the transceiver for thereby automatically transmitting the IP, email ID and status of the user.

20

12. The method of claim 10, wherein, when the loading step is performed, address data of clients who have requested for communication with the user is automatically displayed.

13. A communication service method capable of interactive communication with any email user(s) at real time, wherein sending and receiving parties can connect to each other for communicating with each other, comprising the steps of:

automatically transmitting the IP, email ID and status of any user by executing a

5 transceiver;

requesting for address data of the other party to communicate with;

transmitting the transceiver to the other party having the address data if the other party is disabled to communicate with;

executing the transmitted file by the other party; and

10 determining and selecting one address data of the address data of a plurality of sending parties who have requested for communication which have been received via a server.

14. A communication service method capable of interactive communication with

15 any email user(s) at real time, wherein any sending and receiving parties having no transceiver are enabled to communicate with each other, comprising the steps of:

transmitting a local ID and the ID of the other party to communicate with to an operating server by email by any user;

extracting IDs from the message received by email and transmitting a transceiver to

20 those IDs by the operating server; and

executing the transceiver transmitted via the server by both parties.

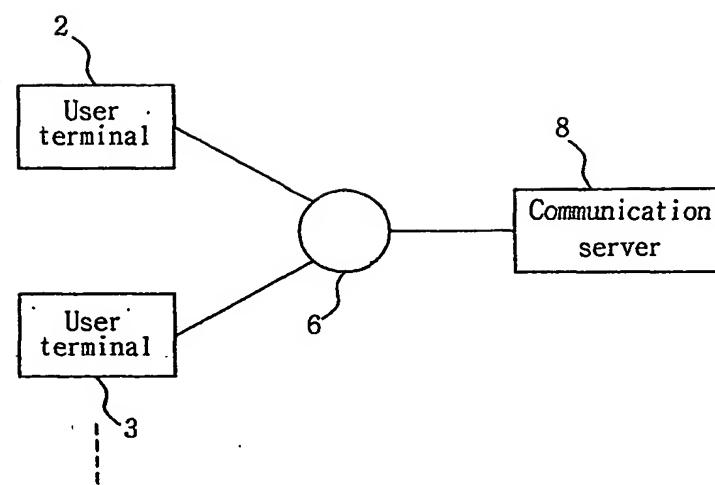


Fig 1

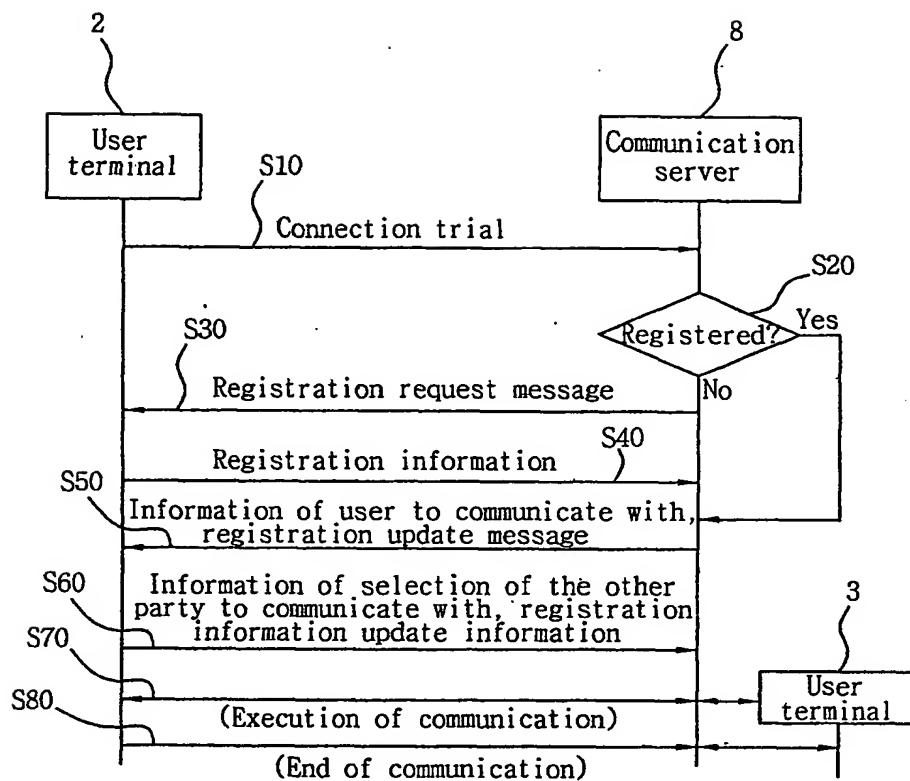


Fig 2

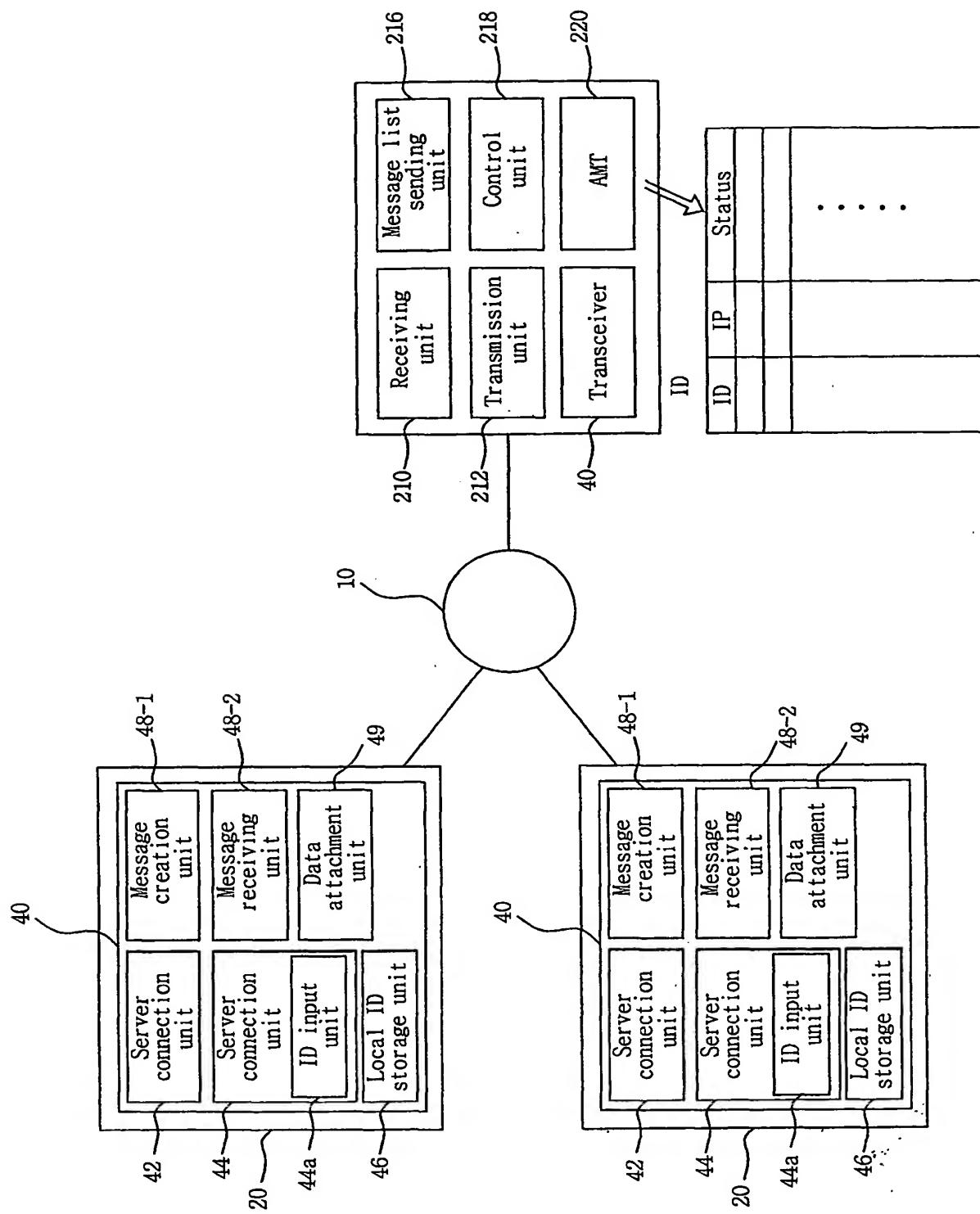


Fig 3

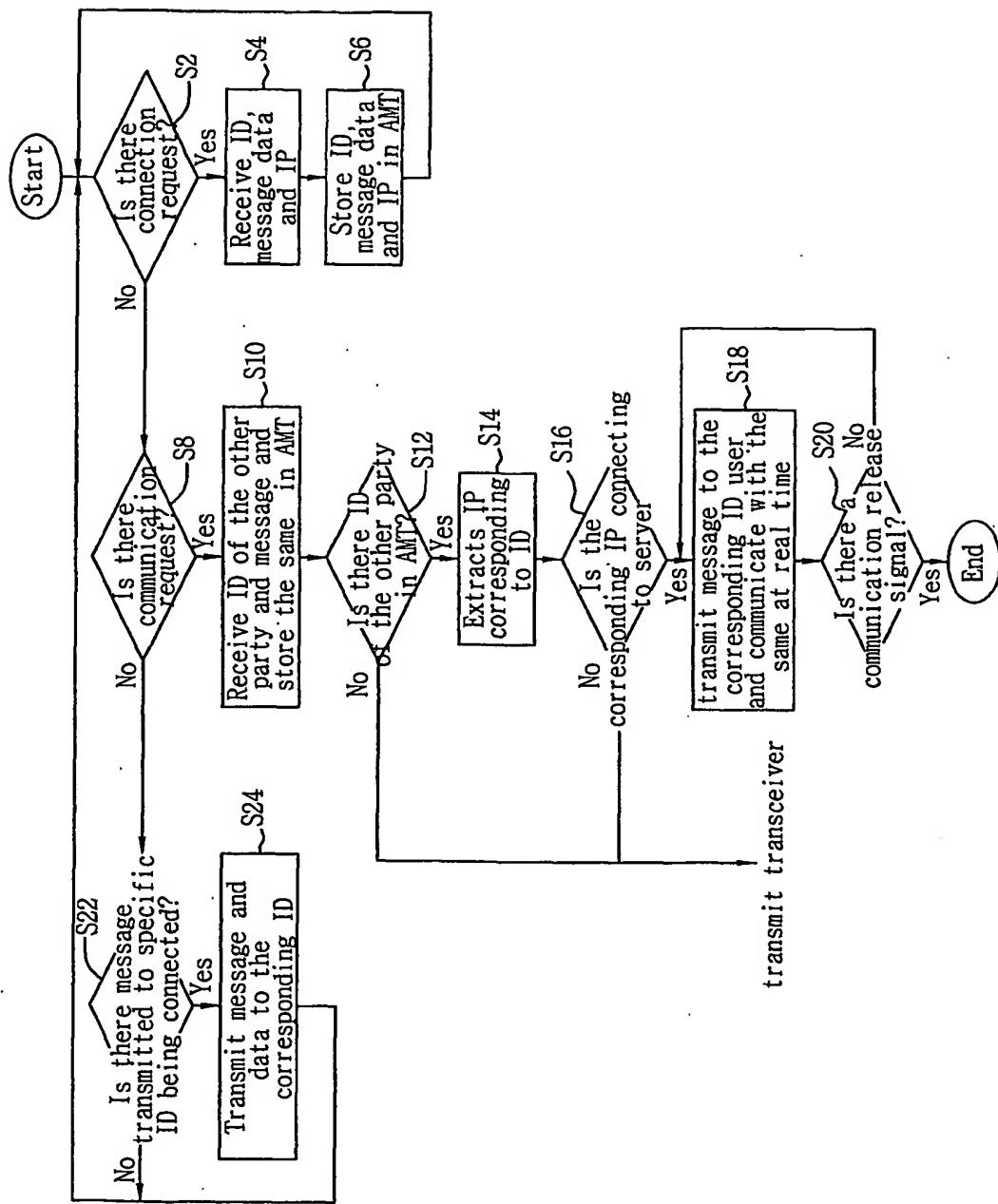


Fig 4

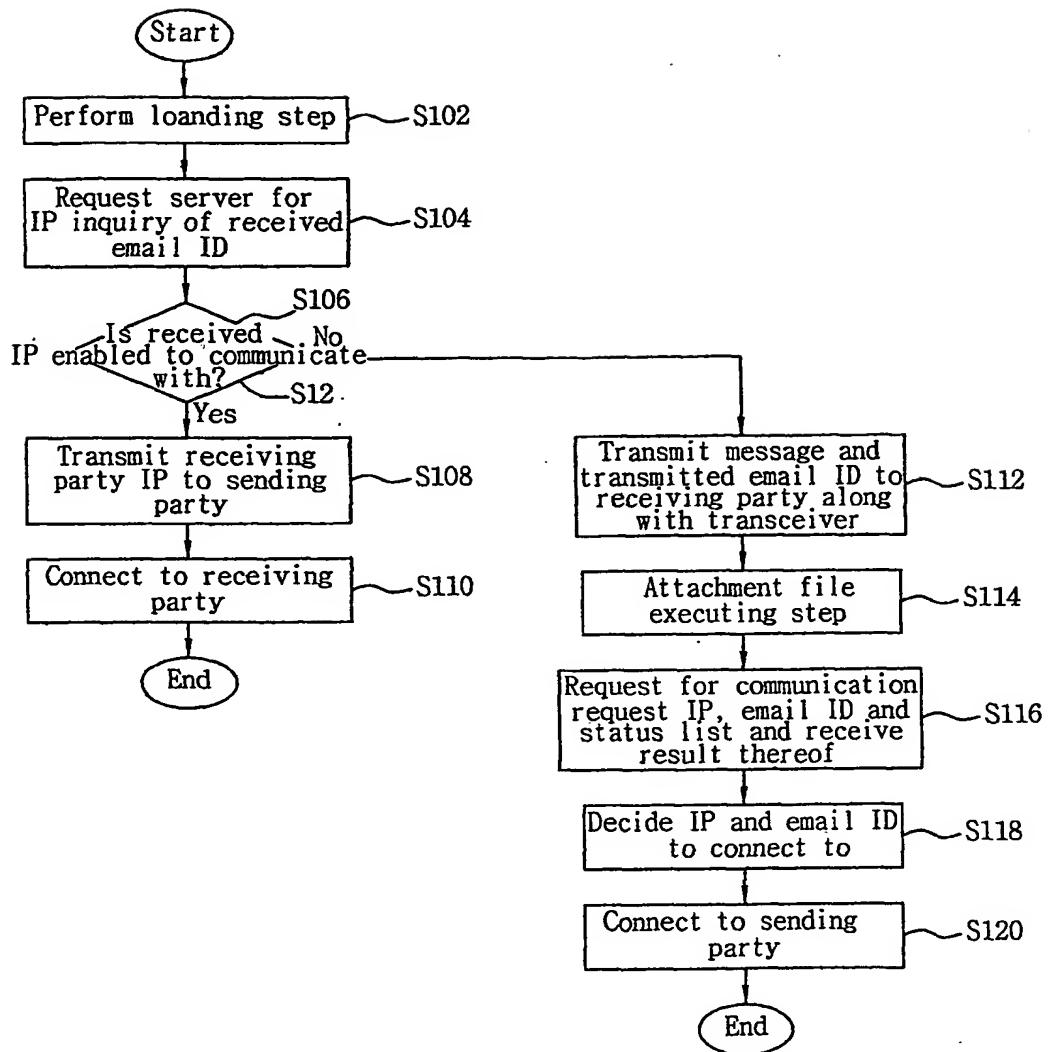


Fig 5

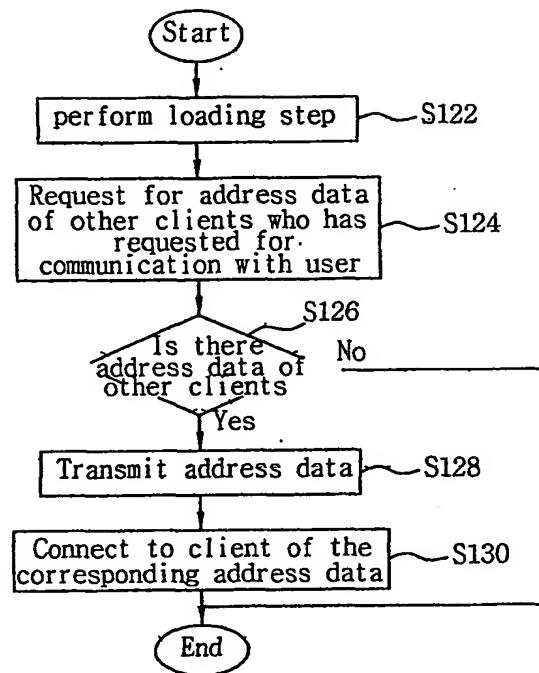


Fig 6

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR01/00903

## A. CLASSIFICATION OF SUBJECT MATTER

**IPC7 H04L 12/54**

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 H04L 12/54

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean patents and applications for inventions since 1975

Korean utility models and applications for utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

<http://ep.sepacenet.com>(Worldwide search in the European Patent Office), "Real Time Electronic Mail"

IEEE/IEE Electronic library(since 1988), "Real and Time and Interactive and Electronic and Mail"

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	WO 9726061 A (GOLDBERG, SHELDON, FRANCIS; VAN ANTWERP, JOHN) 24 July 1997 (24.07.1997)	1-2, 7-9, 11, 13, 14
Y	Senddata: an agent for data processing systems using email, Kwak, J.D.; Elmasri, R.; Lee, K.K. Performance, Computing, and Communications Conference, 2000. IPCCC '00. Conference Proceeding of the IEEE International Published: 2000, Pages 264-270	1-2, 7-9, 11, 13, 14

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	
"A"	document defining the general state of the art which is not considered to be of particular relevance
"E"	earlier application or patent but published on or after the international filing date
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
"O"	document referring to an oral disclosure, use, exhibition or other means
"P"	document published prior to the international filing date but later than the priority date claimed
"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&"	document member of the same patent family

Date of the actual completion of the international search 26 JUNE 2001 (26.06.2001)	Date of mailing of the international search report 29 JUNE 2001 (29.06.2001)
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Name and mailing address of the ISA/KR Korean Intellectual Property Office Government Complex-Daejeon, Dunsan-dong, Seo-gu, Daejeon Metropolitan City 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer KIM, Beom Yong Telephone No. 82-42-481-5684
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**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/KR01/00903

**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.: 3-6, 10, 12  
because they relate to part of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:  
The claims are too broad to make meaningful search possible. The application software devices for communications of sending and receiving messages on a real-time interactive base are inevitable for this application but those are omitted in the above claims.
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

This International Search Authority found multiple inventions in this international application, as follows:

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2.  As all searchable claims could be established without effort justifying an additional fee, this Authority did not invite payment of any addition fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

The additional search fees were accompanied by the applicant's protest.  
 No protest accompanied the payment of additional search fees.